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FOREST INSECT CONDITIONS

Southern California Recreational Forests

January 1953

RECONNAISSANCE SURVEY

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By

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The period of January 4 to 11 was spent in southern California by Messrs. R. C. Hall, M. M. Furniss, and G. L. Downing of the Forest Insect Laboratory, and J. L. Averell of the Division of Timber Management, Regional Office of the U. S. Forest Service, inspecting various control and problem areas on the Los Padres, Angeles, San Bernardino, and Cleveland National Forests. There follows a summary of progress on the control projects visited together with recommendations for additional action or changes in procedure, as well as general impressions on problem areas where no control work has been recommended.

LOS PADRES NATIONAL FOREST

The insect problem on the Los Padres was discussed with Ranger Smithburg and Assistant Ranger Bennett of the Santa Maria District and with Resources Officer Roskie of the Supervisor's office. The only area visited on the Los Padres was the Figueroa Mountain recreational area where control has been recommended and pest control funds allotted to do the job. The area involved in control is practically all owned by the Forest Service with the major problem of western pine beetle in Coulter pine and ponderosa pine. The general impression of the inspectors was that the infestation here was light epidemic and that the maintenance work carried on was keeping the infestation at a relatively low level. Spotting had not been completed in the area but the local representative of the Forest Service indicated that the loss would probably not exceed that for the previous year. The question of the limitation of control boundaries was discussed and the following recommendations made:

Recommendations: It was recommended that control action for this year be restricted to the Figueroa Mountain and Pinery high-use area, and that the Zaca Peak and Zaca Lake areas be left untreated to serve as a check on the effectiveness of control in this area. It was suggested that George Downing work with the local control supervisor in delineating control boundaries. In view of the change in boundaries, it would be desirable to completely spot the area where control is to be undertaken to determine the number of infested trees involved and

the Forest should then submit an estimate of the amount of money needed to do the job. The Forest Insect Laboratory will be responsible for spotting the check area at some later date.

ANGELES NATIONAL FOREST

The insect problems on the Angeles were discussed with Ranger Wilson and Fire Control Assistant Dalen of the Arroyo Seco District and with Ranger Lewis of the Mt. Baldy District. Due to inclement weather it was possible to visit only the Charlton-Chilao control job on the Angeles, although the Barley Flats and Crystal Lake projects were discussed with the local Rangers. In addition, the Wrightwood and Big Pines problem areas were visited.

Charlton-Chilao

The Charlton-Chilao area was the only one visited where there appeared to be a marked reduction in loss over that experienced last summer. This is also the only area where systematic summer maintenance work has been undertaken. The problem here is largely the western pine beetle and Ips in Coulter and ponderosa pine, and flat-heads in Jeffrey pine. Recent control operations have been restricted to the western pine beetle and Ips. In addition to the above, considerable tip killing in Coulter pine was observed, but the causal organism was not determined. Also, numerous dead and dying incense cedars were observed but likewise, the causal organism was not determined. Spotting and treating had just started in the area.

Recommendations: This job appeared to be well organized and was proceeding on schedule. It was recommended that a portion of the Chilao area be set aside for the treating of flat-heads in Jeffrey pine on an experimental basis. George Downing was to work with the local control supervisor in determining the extent of the job. Continued summer maintenance is recommended for this area.

Crystal Lake

The Crystal Lake control job was not visited but some of the problems were discussed with the local Ranger. One of the immediate problems in this area pertains to spotting. Spotting in the past has principally been restricted to faded trees, resulting in missing green infested trees which had to be picked up later in the spring. The question of summer maintenance was also discussed and the following recommendations made:

Recommendations: It was recommended that the Forest Insect Laboratory conduct an experiment in spotting this area by 100 percent coverage, using the principle of string line control developed by Downing to determine the percentage of green infested trees at this time of the year. This job is scheduled for the last week in January. It was also recommended that summer maintenance be considered for the area of high recreational value.

Barley Flats

It was impossible to reach this area because of snow conditions. No work was done in this area last year. Limited spotting indicated that there is a considerable increase in beetle activity, over that of the previous season. This job is scheduled for control along with Charlton-Chilao.

Wrightwood-Big Pines

A visual reconnaissance was made of this area on the return from San Bernardino to San Francisco. Hall, Furniss, and Averell all agreed that volume-wise, this was the most serious infestation seen on the whole trip. The problem in the Wrightwood area appears to be heavy epidemic loss in Jeffrey pine caused by flat-heads. The Big Pines area has practically all of the problems common to southern California except for the Jeffrey pine beetle. The insects involved are western pine beetle and Ips in Coulter and ponderosa pine, flat-heads in Jeffrey pine, the mountain pine beetle in sugar pine, and the fir engraver beetle in white fir, as well as an unidentified Scolytus in big-cone spruce.

Recommendations: No recommendations were made for this area at the time of the visit because further information is needed on which to base a recommendation. This would appear to be an area where it would be possible to obtain considerable control results through the salvage of infested trees. However, an appraisal survey is needed here before formulating such a plan. This appraisal will be made as soon as possible by the Forest Insect Laboratory.

SAN BERNARDINO NATIONAL FOREST

The insect problem on the San Bernardino National Forest was discussed with Ranger Lang and Assistant Ranger Newcombe of the Arrowhead District, Ranger Gilman and Assistant Ranger Smith of the San Jacinto District, Resources Officer Bauer of the Supervisor's office and Paul Sischo, Technician of the California State Division of Forestry. The Arrowhead-Crestline and San Jacinto-Idyllwild control projects were visited.

Arrowhead-Crestline

The Arrowhead-Crestline control job is the largest and most complex job in southern California. Insects responsible for damage in this area include the western pine beetle and Ips in Coulter and ponderosa pine, the Jeffrey pine beetle and flat-heads in Jeffrey pine, mountain pine beetle in sugar pine, and the fir engraver beetle in white fir. Control operations for the past few years have been principally against the western pine beetle with no attempt being made to control any other species. Control results during the last season have not been as satisfactory as we would like. From present indications, the number of infested trees this winter will be almost double the number treated last winter. There are two factors which appear to have had a decided bearing on the increase

in infestation this season. One is the influence of the recent fire northeast of Lake Arrowhead where there has been a tremendous local build-up of western pine beetle populations. The other factor is the limited boundary of the control zone where circumstantial evidence indicates that there has been a heavy migration of populations from the untreated area into the adjacent treated area.

The current control job is a three-way cooperative effort between the private timber-land owners, the U. S. Forest Service and the California State Division of Forestry. Inasmuch as the control zone, as established when the agreement was drawn on an ownership basis, was approximately 1/3 Forest Service and 2/3 private, the Forest Service contributed 1/3 of the estimated cost and the private and State people shared equally in the balance. These funds have been pooled and the U. S. Forest Service is administrating the whole project under the supervision of the Forest Insect Laboratory. Spotting had been completed on approximately half of the area with approximately 1,000 infested trees found.

Recommendations: The following recommendations were made for this area:

1. It is recommended that the control boundary be extended to include the fringe areas to the north and east of the Lake and that the area north of Lake Gregory be completely worked instead of partially as was done last season (the recommended change in boundaries is shown on the attached map). In view of the magnitude of the present job, it is obvious that the present allotment of funds will not complete more than about half of the project. The present allotment of funds are as follows: Private - $5,350, State - $5,350, U. S. Forest Service - $5,350, with a total of $16,050. Indications are that there will be at least 1,600 infested trees in this area which will cost an estimated $32,000. Therefore, it is recommended that the Forest Service and the State each contribute an additional $5,350, plus $5,350 of Pest Control Funds to cover 1/4 of the cost on private land. This will give a total of $32,100.

2. In view of the high cost of treating trees in this area and the fact that experienced manpower is difficult to get, it is recommended that contract treating be utilized if possible on a sufficiently large acreage to obtain reliable data on the efficiency and cost of contract labor.

3. It was further recommended that further attempts be made to interest local operators in removing infested trees for salvage prior to emergence of the beetles. If necessary, it would be in the interest of the Government to pay a nominal fee to have infested trees removed, since this would result in a marked reduction in treating cost. In view of the magnitude of this job, it is going to be necessary to cut all the corners possible in order to stretch each control dollar, so that all infested trees can be properly treated.

4. It is also recommended that summer maintenance be considered for this area.

San Jacinto-Idyllwild

This control job was discussed and areas examined with Ranger Gilman and Assistant Ranger Smith and Paul Sischo from the California State Division of Forestry.

The problem in the area is the western pine beetle in ponderosa and Coulter pine, flat-heads in Jeffrey pine, and to a limited extent, the mountain pine beetle in sugar pine. However, no control work is being carried on against flat-heads although the trees are spotted along with other species. Spotting had been mostly completed and from present indications, this job will need an additional $800 to complete the control job. Treating was under-way on the job.

Recommendations: On the basis of the number of trees spotted, it is recommended that an additional amount of $800 be allotted from Pest Control funds to finish this job.

Barton Flats

This area was not visited but the proposed sanitation-salvage sale was discussed with Bauer and arrangements were made to have Furniss assist in the training of high-risk markers during the period of January 26-30. It was decided to completely mark all the high-risk trees on about 800 acres, so that the prospective bidder will know the total number, size and quality of timber to be removed as well as local logging show.

CLEVELAND NATIONAL FOREST

The general aspects of the control jobs on the Cleveland were discussed with Supervisor W. J. Puhn and A. F. Wright. The Corte-Madera and Laguna control areas were visited and examined with Ranger Britton and Assistant Ranger Rice of the Descanso District.

Corte-Madera

The problem in this area is the western pine beetle in Coulter pine and flat-heads in Jeffrey pine. Control work is now being directed against the western pine beetle in Coulter pine although the trees attacked by flat-heads on the private land are being felled and the slash burned. This is a comparatively restricted area containing 840 acres in the control zone, and inasmuch as the problem is mixed flat-heads and western pine beetle, it would appear to be a good area to carry on an experimental control job for flat-heads at a nominal expenditure of funds. The maintenance work carried on here for the past several years against the western pine beetle appears to be keeping the infestation at a relatively low level.

Recommendations: It is recommended that this area be set up for an experimental control job on flat-heads in Jeffrey pine and that an additional $500 of Pest Control funds be allocated to the project to cover this work. It is also recommended that summer maintenance be considered for this area.

Laguna

The problem in this area is largely confined to flat-head damage in Jeffrey pine and, to a limited extent, to western pine beetle damage in Coulter pine. For the past two seasons, control work has been carried on only againly the western pine beetle in Coulter pine on about 800 acres at the northern extremity of the area. From the standpoint of tree mortality, flat-heads appear to be killing about 10 trees to one killed by the western pine beetle. It does not make very good protection sense to operate on this basis. Keen presented an excellent summary of the Laguna situation in his letter of November 23, 1949, addressed to the Regional Forester. In this he made six different recommendations. Number 5 was as follows: "Carry out a sanitation-salvage program as proposed in Bongberg's memorandum of April 20, 1948, including thinning and stand improvement on an experimental area of approximately 320 acres of government land to see how effective the method might be if applied on the entire area. Cooperation might be obtained from the local loggers to take the marked trees". Number 6 was: "Review and intensify the studies started in 1941 by entomologists and pathologists to determine the relative importance of the different factors causing tree mortality, so as to get all the basic facts behind this situation, and in this way, come to some sound conclusion as to what course of action to pursue in the future." It would appear that both of these recommendations are as sound today as when they were proposed.

Statistical information is lacking on the amount of loss in Jeffrey pine in this area and this information should be obtained at the earliest opportunity. In view of the magnitude of any direct control job against flat-heads at this time, it would appear that all possibilities of indirect control should be explored at the earliest opportunity, which prompts the following recommendations.

Recommendations: (1) Keen's recommendation, No. 5, is strongly urged, namely, that an experimental sanitation-salvage job be started early this spring on at least 320 acres.

(2) That an appraisal survey be made of the area as soon as convenient. This will be a responsibility of the Forest Insect Laboratory.

(3) That a research program be initiated in the area as soon as funds are available.

Other Problem Areas: In addition to the two control projects on the Cleveland National Forest, there are two other distinct problem areas where heavy epidemic losses are occurring and where no control action has been considered. These include the following:

Julian

The problem in this area is very heavy epidemic loss in Coulter pine caused by a combination of the western pine beetle and Ips. However, at this time, Ips appears to be playing a very minor role in the infestation. There has been no control work under-way in this area since 1949, which probably accounts for this heavy epidemic.

Recommendations: An appraisal survey should be made in the area before any recommendations for or against control are made. The Forest Insect Laboratory is planning such an appraisal the first week of February, 1953.

Cuyamaca

The situation here appears very similar to that observed in the Julian area, except for the fact that the build-up of insects in recently fire-injured trees in the Cuyamaca area may have increased the problem.

Recommendations: The recommendations are the same as for Julian.

DISCUSSION

General impressions, plus a limited amount of factual information, indicate that the level of losses, due to insects in southern California, is the heaviest in many years. This is quite contrary to what was expected by many people who predicted much lower losses because of the general improvement in precipitation during the past winter and spring season. The over-all impression of the author is that the infestation in southern California is the heaviest he has seen in 14 years of experience in California.

The cost of direct control on the projects in southern California averaged over $20 per tree last year, and the cost this season will probably exceed that figure. This high cost could be materially reduced if it were possible to find a market for infested merchantable trees. The possibility of salvage of infested trees was discussed on practically every project, but the answer was always the same, "no operator interest". Some of this indifference on the part of operators is understandable in view of the average small size of most of the trees, combined with the fact that much of the salvage would be Coulter pine of rather low quality. The local story on Coulter pine is that it is particularly difficult to season without warping and cracking. The greatest single need in this general area would seem to be a promotional program to interest reliable operators in the salvage possibility of infested and high-risk trees, as well as studies on seasoning and marketing of Coulter pine. If these two could be developed to their maximum, there is every reason to expect that we could greatly reduce the high cost of direct control in areas now under maintenance, as well as extending control in areas where economics have made direct control recommendation questionable in the past.

We are still operating on a "one-shot" control plan in southern California where control work is directed against the over-maturing generations of beetles only. It is strongly urged that year round maintenance be given full consideration for these areas of high recreational value.

Forest Insect Laboratory
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